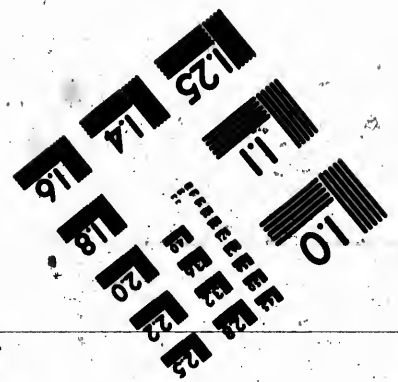
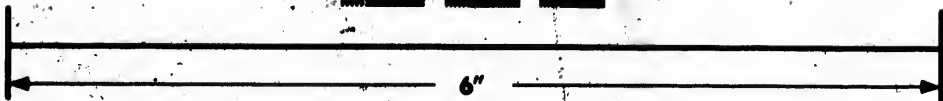
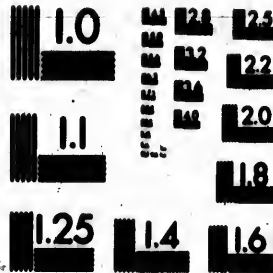




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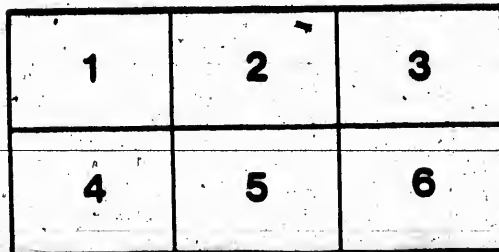
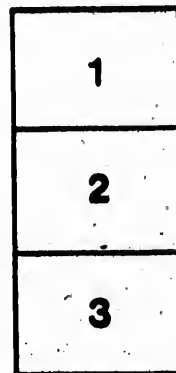
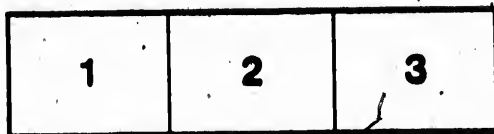
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DEPARTMENT OF LANGUAGES

A FINE HEAD BEFORE THE CANADIAN INDIANS
TORONTO, APRIL, 1898

HORATIO HALE



THE
DEVELOPMENT OF LANGUAGE.

A PAPER READ BEFORE THE CANADIAN INSTITUTE,
TORONTO, APRIL, 1888.

BY
HORATIO HALE.

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THE DEVELOPMENT OF LANGUAGE.

By HORATIO HALE.

It is the characteristic of modern science that it seeks to account for all development and progress by the operation of existing causes. In an address delivered before the Section of Anthropology in the American Association for the Advancement of Science, at the meeting of 1866, I sought to show in what manner this general law is applied to elucidate the history of language. The origin of linguistic stocks or families has been deemed one of the most mysterious problems in philological science. There are, so far as our present knowledge extends, between two and three hundred of such stocks, differing totally from one another both in vocabulary and in grammar. Various hypotheses have been offered to explain their origin, but none has been generally accepted as satisfactory. Professor Max Müller, in his "Science of Language," considers the problem extremely difficult, but not insoluble. He compares it to the question of the plurality of inhabited worlds, but deems it not quite as hopeless. He believes (and, as I hope to show, with justice) that it may receive a solution which will demonstrate that all languages have proceeded from one source. On the other hand, Professor Hovelacque, in his excellent work "La Linguistique," presents the fact of the existence of "a multiplicity of irreducible linguistic systems," as "a capital argument" in favor of that polygenist view, which holds that man, originally speechless, acquired the faculty of speech in as many different places as there are different linguistic stocks.

This view, it will be seen, though maintained by a distinguished evolutionist, is in itself anti-evolutionary; for it assigns the origin of linguistic stocks to a cause no longer in operation. In the address

referred to, I endeavored to show that the origin of these stocks was due to a force which is in constant activity, and which I described as "the language-making instinct of very young children." Every parent must have noticed how his child, when beginning to talk, constantly uses novel expressions, apparently of its own invention, but doubtless often mere corruptions of words, perhaps misunderstood, uttered by its elders. Ordinarily these peculiar expressions are soon corrected and forgotten. But instances not unfrequently occur where two children of the same or nearly the same age, who are left much together, proceed in their invention of these novel terms until they frame a complete language, sufficient for all purposes of their childish intercourse, but totally unintelligible to those about them. Several instances of the creation of such child-languages were cited, and the fact was pointed out that in the first peopling of every country, when, from various causes, families must often be scattered at very wide distances from one another, many cases must have occurred where two or more young children, left by the death of their parents to grow up secluded from all other society, were thus compelled to frame a language of their own, which would become the mother tongue of a new linguistic stock.

As the address has been published (in the volume of the Association for 1886) it will not be necessary to repeat the facts and reasoning which were offered in support of this theory. Though presented under serious disadvantages,—for the restricted limits of a public address compelled the omission of much evidence which had been gathered in its support,—the reception thus far accorded to it, by authorities of the highest rank, seems to afford a good augury of its ultimate general acceptance. The few objections which have been made to it are only such, I am confident, as a fuller discussion and a better understanding of its character and purport will remove. Most of them had in fact been already anticipated and answered in the original essay, of which the address in question was a brief and partial summary. I am grateful, therefore, to the Philological Committee of the Institute for the opportunity which their invitation affords me of laying before students of linguistic science some of the omitted portions of my essay, which may aid in commending to their judgment the views thus suggested on the origin of linguistic stocks, and on the natural laws which govern the development of speech.

Two widely different theories in regard to the formation and growth of language have been maintained by eminent philologists who have written on that much-vexed question. One class, at the head of whom may be placed the great name of Jacob Grimm, have argued that this formation must have been a gradual process, commencing with a few hundred monosyllabic roots, from which, by slow and progressive steps, continued from generation to generation, have sprung, first, the agglutinate type, and, finally, the inflective form of speech. On this theory, the Chinese represents the primitive onset of language, the Manchu or Malay would indicate the secondary or intermediate form, and the Semitic and Aryan would display the latest and highest development. The linguistic process, however, does not rest here. According to the theory, as set forth by its most distinguished advocates,* when language has reached its highest stage of synthesis, such as appears in the Sanscrit, the Greek, and the Latin, a disintegrating or analytic force makes itself felt. The too elaborate and cumbrous grammatical system is gradually decomposed; many inflections disappear, and the analytic tongues of modern India, Persia and Europe are formed.

These views are strongly combated by another class of scholars, among whom a high place is due to the eminent author of the "General History of the Semitic Languages." To cite the forcible argument of M. Renan in his own words:—"Grimm recognises, with all linguists, the fact that the farther we go back in the history of languages, the more synthetic, rich, and complicated we find them; but he refuses to follow the induction to the end. Instead of concluding from this progression that the primitive language, if we could know it, would be a model of exuberance, he stops short, and supposes before the synthetic period a period of infancy, the reality of which there is no positive fact to prove. I do not think that it is allowable—thus to escape from the rule of analogies; the human mind has no such sudden turns; its laws operate in a continuous manner. The advance of languages towards analysis corresponds to the advance of the human mind towards a reflection more and more clear. This common tendency of the human mind has existed from the first day; and it is, therefore, in the first day that we must place the highest degree of

* J. Grimm: "Über den Ursprung der Sprache;" Berlin, 1822. His views are summarised and discussed in the Preface to Renan's work, "De l'Origine du Langage," 5th edn., Paris, 1873.

synthesis."* "That which," he continues, "as often induces linguists to regard the elementary monosyllabism of the Chinese as the primitive condition of all languages is the inclination which leads us to look upon simplicity as the mark of a state of infancy, or, at least, as the character of a high antiquity. But this is an error, from which philology should guard itself. The Chinese speech, wholly monosyllabic as it is, has served as the organ of a highly developed civilization. On the other hand, the languages of the barbarous tribes of America and of the people of Central and Southern Africa, which begin to furnish unexpected revelations to science, offer a truly surprising wealth of grammatical forms. According to Grimm's hypothesis, we must suppose in these populations a powerful effort, which at a certain epoch has caused them to issue from the infantile stage, and to pass into that of reflection. The grammatical system of the Hottentots being much more advanced than that of the Chinese, we should have to admit that the Hottentots have made greater progress than the Chinese in the path of intellectual development, and are farther removed from their primitive condition. This is a conclusion which it would be impossible to maintain."†

M. Renan's argument appears to be decisive against the theory of the great German philologist; but, strange to say, he does not observe that it is equally decisive against his own. If there is no fact which proves that the synthetic condition of the Sanscrit, the Greek and the Arabic has been preceded by a monosyllabic stage, there is equally no fact to show that the monosyllabic condition of the Chinese has been preceded by a polysyllabic or synthetic stage. Some writers have, indeed, suggested that such a stage once existed, and that the monosyllables which have been spoken for four thousand years in China are merely the relics of inflected disyllables or longer words, which, by the combined influence of analysis and of phonetic decay, have been reduced to their present formless condition. This suggestion, however, fails to take in view the fact that the Chinese is only one of a large family of monosyllabic tongues. Several such languages are spoken in the region south of China and east of the Ganges. The Khasi, the Tai of Siam, and the Annamese are as purely monosyllabic

* "De l'Origine de la Langue," p. 11.

† *Id.*, p. 14.

as the Chinese, and yet differ totally from it in vocables, and sometimes in that which constitutes the only grammar of this form of speech—the collocation of words. To maintain that all these languages, with their numerous dialects, spoken in many cases by barbarous or semi-barbarous populations, have been produced by the simplification of polysyllabic tongues, through a long course of development and reflection, would be a bold assumption, for which there are no historic or scientific grounds whatever.

The necessary conclusion from all the facts within our knowledge is that the mother-tongues of the various linguistic stocks were of widely different types, some monosyllabic, others agglutinative, and others inflective in different forms. This conclusion, which at first sight seems not to accord with the opinions either of Grimm or of Renan, is not perhaps entirely at variance with the theories of either. The former held that language began with monosyllables, and grew by gradual development to the inflective state. The latter, to use his own words, "regards language as framed at a single stroke (*d'un seul coup*, issuing instantaneously from the genius of each race."⁶ It may appear, singularly enough, that the two views, seemingly so irreconcilable, are both to a certain extent justified by the facts. A new language arising in one generation would doubtless be deemed by M. Renan to have been "formed at one stroke." Yet this language might, in the process of its formation, have conformed to the theory of the German philologist, and have grown by gradual development from the monosyllabic to the inflected stage.

If every new mother-tongue began, as we suppose, in the lips of very young children, its first form would necessarily be in the main monosyllabic. No child in its first utterances willingly pronounces a dissyllable, unless it be a simple repetition, like *papa, mama, dada*. Some years ago the author took special notice of this fact in the early speech of a little boy of his household. He was a very intelligent child, with good vocal organs, and, as it subsequently appeared, with rather unusual aptitude for language. At the age of two years, he could say many words, but (except in a few cases of repetition, like those just referred to) they were all monosyllables, composed either

⁶ "Je pense donc, après dix ans de nouvelles études, à envisager le langage comme formé d'un seul coup, et comme sorti instantanément du génie de chaque race."—De l'Origine du Langage; préface to 5th edition, p. 14.

of one vowel or diphthong alone, or else of a vowel or diphthong preceded by a single consonant. Every word ended with a vowel, and two consonants never came together. All his words were thus reduced to a form of the utmost simplicity; and, of course, the same syllable had many significations. *Co* signified clothes, coat, cold; *ca* was cat, cap, candy, scratch; *f*, which he could not manage, became *w*, and thus "walk" and "fall" were both pronounced *waw*. *R*, which he could not pronounce, became *l*, and thus both "ride" and "like" were sounded *li*. His sister's pet name, Florrie, became *Woy*, and Willie was sounded *Wes*. Yet, with this imperfect speech, the little fellow managed to make his meaning partly intelligible to his mother, and completely so to his brother, older than himself, who readily conversed with him, and became his interpreter to the older members of the family. Here, it will be seen, was already the commencement of a new language. What was particularly interesting was the fact that this language took a completely Chinese form. In the proper Chinese language, as is well-known, every word ends in a vowel, either pure or nasalized; and the great majority of words comprise but a single consonantal sound. Indeed, where in our orthography a Chinese word commences with two consonants, their utterance represents to the native ear a single sound,—this sound being a mute combined with an aspirate or a sibilant, as in *kho*, *wa*. Occasionally both aspirate and sibilant follow the mute, still making with it, according to Chinese notions, a single consonant, as in *tho*, *theng*. These combinations, however, are rare, the *k*, *p*, and *t* being the only consonants which can be followed by the aspirate or the sibilant, and the *t* alone being capable of receiving them both at once. The total number of syllables in the Chinese language—that is, of what we should consider words—is only 450, which is raised to 1203 by the variation of accents.*

If we suppose that a new speech had to be framed by an isolated group of young children, in whom the linguistic faculty was naturally weak, and was exceptionally slow in development, we can understand how such a language might be arrested in its monosyllabic stage. Its four or five hundred words would be ample as a means of communication among children, and if these words were supplemented, as the speakers grew older, by the variations made by the tonic accents, giv-

* Abel-Rémusat: *Grammaire Chinoise*, p. 22.

ing thus 1200 distinct vocables, the language would be complete for all essential purposes. Few uncivilized communities have a greater number of primitive words in ordinary use. How the highly civilized and literary Chinese manage to express with their limited vocabulary a vast range of ideas is easily understood. Much is accomplished by the mere effect of position,—a method which is almost as fruitful in language as in arithmetic. Thus *td* signifies great, or greatness; *jin*, man or manly: *td jin* is "great man;" *jin td*, manly greatness. *Jin* may become a verb, as in the expression quoted by Rémusat from the discourse of a Chinese author against the Buddhist monasteries, *jin kht jin*, literally "man those men," i.e., make men of those persons who are not now acting the part of men. So, in English, we can say a "man-child" and a "child-man." A merchant-captain will "ship a man" to "man his ship." What is with us an occasional practice is the regular habit of the Chinese language. To this should be added the use of conjoint expressions, in which each part explains the other. Thus *tdo* has twelve meanings in Chinese, and makes, in fact, twelve words, totally distinct, and each represented by its own written character. Among these meanings are to lead, to rob, to cover, a flag, cereal grain, and way. *Loi* has seven significations, with as many characters, comprising dew, cormorant, to suborn, and road. When these two words are united in the form of *tdo loi*, to express a single idea, that idea can only be the one common to both, namely way or road.* The combined form is not properly a compound or a dissyllable, as each word retains its tonic accent; but the method, nevertheless, gives to the language the same means of avoiding ambiguity, and of enlarging its vocabulary, which are possessed by the synthetic tongues. From *chod*, book, and *fang*, house, we have *chod-fang*, book-house, i.e., library; from *kht*, begging, and *jin*, man, *kht-jin*, beggar; from *thian*, heaven, and *nia*, daughter, *thian-nia*, heaven's offspring, which, by a poetical metonymy, has become the ordinary name of the swallow.† In this way, the language, with its scanty list of primitive vocables, has been made sufficient for the needs of an elaborate culture and an extensive literature.

The child who at two years of age could pronounce only the sim-

* Grammaire Chinoise, p. 108. The English "roadway" offers a curious resemblance to this expression.

† *Ib.*, p. 111. The pronunciation of the Chinese words is given in the French orthography.

plest monosyllables, and that very indistinctly, is able, when a year or two further advanced, to master words of two or three syllables, and to form sentences which are intelligible enough to all hearers. He has still, however, no comprehension of grammar, and dispenses not only with inflections, but usually with pronouns, articles, and the other auxiliary parts of speech. Instead of "Papa, will you tell me a story?" he says, "Papa, tell Harry story!" Instead of "the cat scratched me yesterday," he says, "cat scratch Harry yes'day." Instead of "I have just seen two pigeons flying overhead," he says, "Harry just now see two pigeon—pigeon fly high, high." Every parent will recognize this style of speech; and the philologist will see that, except in the absence of pronouns (and sometimes even in this respect,) it represents the simplest form of agglutinative speech, such as we find in the Malay and Manchu groups of languages. Our children, under the instruction of their elders, quickly pass beyond this stage; but we can readily understand how a group of young people, not endowed with a large measure of the language-making faculty, might, if left entirely to themselves, be satisfied to let their language remain in this stage.

If, however, in a family of children, such as we have supposed to be left to form a speech for themselves, the elders proved to be endowed with a good linguistic faculty, we may feel confident that, long before reaching maturity, they would begin to employ inflections, and that, if this faculty happened to be particularly strong, these inflections would, by the time the children were fully grown, have developed into a complete and elaborate grammatical system. The steps by which this stage would be reached are sufficiently evident. The most essential adverbs or adjectives of place and time, number and quality,—here, there, yonder—now, then, soon, yesterday, to-morrow—one, two, three, many, more—good, bad, much, little,—would first appear. From the adverbs of place would spring both the pronouns and the prepositions. If the language remained in the agglutinative stage, these auxiliary terms would continue isolated, or loosely attached to the principal words, the names of things or of actions. But a stronger language-forming faculty would not be satisfied to rest here. The qualifying particles would presently be incorporated with the nouns and verbs, to form cases, numbers, tenses and moods. The Aryan or the Euscarian speech would thus be developed. Or, perhaps, when

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the qualifying adverbs had come into use, some youth in whom the linguistic instinct was particularly strong, would hit upon a compendious mode of expressing the sense of these qualifying words, not by incorporating them with the verb or the noun, but by changing the vowel of the verb or the noun to correspond with that of the adverb. The difference in the two methods is easily understood, and we can readily see how either of them might occur to an intelligent boy or girl. If *bodha* signifies "to know," and *am* or *ami* is "I," and *an* is "then," the Aryan lad might affix the pronoun to the verb, and for "I know," would say succinctly, *bodhami*, know I. If he wishes to speak of a past time, he will prefix the adverb in an abridged form, and for ease of pronunciation will shorten the suffixed pronoun. Instead of saying *an bodhami*, "then know I," he will say, briefly, but intelligibly, *abodham*, and thus produce the Aryan imperfect with its well-known "augment." Another lad, the leader in a second isolated group, has been accustomed to use the word *daraba* for "strike" or "struck," in a vague and general sense, with no particular reference to time. He wishes on some occasion to say distinctly, "now striking." *Hu* is "now" or "here," and he might say, "*hu daraba*;" but a quick sense of euphony suggests to him the happy idea of changing the vowels of the verb to correspond with that of the adverb; he says, "*durubu*," or, in an abridged form (with the pronoun prefixed) *yadrubu*, "he is now striking;" and his companions, with equally ready apprehension, at once catch his meaning, and conform to his method of speaking. The germ of a new system of inflection is thus formed, and is quickly developed into a language of the Semitic type. This, however, it should be observed, is not the only mode in which languages of this type may have originated. As we shall see presently, there is evidence to show that the method of inflection by internal vocalic change may have been, in some cases, among the very earliest products of the language-making faculty.

The logical result to which we are brought by our course of reasoning is evident enough. *The inflections of a language must be coeval with the language itself, and must originate with its first speakers.* This, as has been seen, is the view of Renan. But no writer has expressed more clearly and forcibly than Professor Max Müller the important truth, that the mould of each linguistic stock bears evidence of having been formed at once for all time. "In the gram-

mathematical features of the Aryan and Semitic dialects," he observes, "we can discover the stamp of one powerful mind, once impressed on the floating materials of human speech, and never to be obliterated again in the course of centuries." "Most words and grammatical forms in these two families," he adds, "seem to have been thrown out but once by the creative powers of an individual mind; and the differences of the various Semitic and Aryan languages, whether ancient or modern, were produced not so much by losses and new creations, as by changes and corruptions which defaced in various ways the original design of those most primitive works of human art." He affirms that "no new root has been added, no new grammatical form been produced, in any of the Aryan provinces or dependencies, of which the elements were not present at the first foundation of this mighty empire of speech." Thus he regards the Semitic and Aryan languages as "the manifestations and works of two individuals, which it is impossible to derive from one another."^{*}

The same proposition, of course, must apply to every linguistic family. The grammatical framework of each stock must have been struck out and put together once for all. It does not necessarily follow, however,—nor need we understand Professor Müller to assert,—that the framer of a new speech must, in all instances, have had a powerful mind or a strong linguistic faculty. On the contrary, it is evident enough that certain languages, such as the Chinese, the Thibetan, and the Malay, indicate but a weak development of this faculty. Nor does it seem literally correct to speak of one mind as engaged alone in the formation of a language. Speech implies at least two collocutors. It would be more exact to say that each linguistic stock must have originated in a single household. There was an Aryan family-pair, a Semitic family-pair, an Algonkin family-pair. And further, it is clear that the members of each family pair began to speak together in childhood. No instance was ever known, nor can one be reasonably imagined, of two persons, previously speechless, beginning to speak together in a new language of their own invention, after they had attained maturity. On the other hand, many instances are known (as is shown in the address referred to) in which young children have devised and constantly used such a language.

^{*} In Bunsen's "Philosophy of Universal History," Vol. I, p. 478.

It is unquestionably true, as Max Müller has said, that after this primitive household had been dispersed, no new grammatical form was ever produced, of which the elements were not present in the original speech. Careful reflection will show that this is not merely the proper deduction from all the known premises, but that it is the only reasonable conclusion. Let any person suppose that a language of uninflected roots had arisen, and had existed for several generations, until the population speaking it had been somewhat widely diffused; and let him then endeavor to imagine how an attempt to introduce inflected forms—as for example, a future tense, a subjunctive mood, or a possessive case—would be received. If the people had been able to make themselves understood without these new-fangled contrivances, why should they take the trouble to adopt them? There can be no doubt that some of the Latin and German inflections would be very useful in English, and would be highly conducive to clearness and force; but how hopeless would be the attempt to introduce them! Unless we are willing to suppose that human nature in prehistoric times differed utterly from the human nature of to-day, we must believe that the same difficulty, or rather impossibility, would have been found in those days.

To this general statement, however, there are certain apparent exceptions, which should be noticed. As will be seen, they simply confirm the rule, in the shape in which Prof. Max Müller has laid it down. A change in the form of inflections not unfrequently takes place. The Anglo-Saxon tongue had many ways of forming the plural. It might terminate in *s*, in *u*, in *a*, or in *n*, or it might be indicated by a change in the radical vowel. *Wulfa*, wolf, became *wulfas*; *scipa*, ship, *scipu*; *handu*, hand, *handd*; *tunge*, tongue, *tungan*; *bók*, book, *bók*. All these plurals have now in English but one termination, in *s*. We say wolves, ships, hands, tongues, books. In French and Spanish plurals, a similar change has taken place, from the variety of the Latin forms, to a single termination in *s*. The rule is, that when, from the habit of speech, the need of an inflection is strongly felt, and it happens that, for any reason, one form disappears, another, the simplest, and most convenient, is likely to be adopted, by a sort of common consent, in its place. A striking example is found in the future tense of the Romanic languages. In

the confusion of speech which followed the conquest of Latin Europe by the Teutonic barbarians, the southern dialects remained radically Latin, but many inflections, as, for example, the cases of nouns, disappeared altogether. The Latin future was also lost; but the need of this tense was so strongly felt, that a new one was formed by uniting the auxiliary verb "have" with the principal verb. Thus the Spanish provincial, instead of *amabo, amabis, amabit*, learned to say *amar he, amar has, amar ha*, literally, I have to love, thou hast to love, he has to love; and these expressions were easily compressed into the modern forms *amaré, amarás, amará*.^{*} It is well known that the Latin tense itself is (in the first and second conjugations) of a similar secondary formation, replacing an early Aryan future.

Thus in every instance, where any record exists, we are led back from these secondary formations to an earlier stage of the language; and the natural and indeed inevitable inference is that, in all languages of every stock, the same general law prevails. The various dialectical forms, either of words or of grammar, are in general mere corruptions or replacements of elements which existed in the original speech.

At this stage of our argument it becomes necessary to consider with some care an important question which has already been incidentally alluded to—that of the difference between synthetic and analytic languages. The fact that during the historic period the progress of language has in general been from the more to the less complex form is unquestionable. The process which strikes us in the rise of the Romanic languages on the ruin of the Latin is repeated in the Teutonic countries, in Greece, in Persia, in India, and in Arabia. In all these regions many inflected and composite forms have disappeared, and have given place to simpler and more analytic methods. Prepositions and auxiliary verbs have, to a greater or less extent, superseded the case-forms, tenses, and moods of the primitive tongues. This has been regarded as a progress from synthesis to analysis; and, as has been already shown, some eminent writers have been led to maintain that this progress represents the natural and necessary advance which a language makes, with the development of intellect and of culture in those who speak it. Some have even gone so far as to

^{*} Marsh: "Lectures on the English Language: Lect. XV.

speak of highly complex and synthetic tongues as "barbarous languages," and the more analytic idioms as "civilized languages." A wider induction, however, appears to lead to a very different conclusion.

There is no doubt that, as a general thing, the less composite and more analytic of two allied languages is likely to be the more recent in its formation; or, to speak more precisely, if two languages stand to each other in the relation of mother and daughter, as the Anglo-Saxon to the English, the Latin to the Italian, the Greek to the Romance, the Samoan to the Hawaiian, the daughter tongue is certain to be the simpler and less inflected of the two. But it is equally certain—and indeed these very examples are sufficient to show—that the change of form has nothing whatever to do with any intellectual or social advancement, and that to speak of it as a progress in any sense is wholly to misconceive its nature and origin. In fact it is more properly a degradation and an impoverishment. The modern languages of southern Europe assumed their present "analytic" form, as it is styled, during the middle ages, at a time when the communities speaking them were certainly, in every point of literary culture and social organization, very far below their predecessors who spoke the highly composite classic tongues. No one will maintain that the present inhabitants of northern Hindostan are intellectually superior to the contemporaries of Kalidasa, or that the modern Persians, who speak one of the most analytic of Aryan languages, are superior in intelligence to their ancestors of the Zoroastrian era, the speakers of the highly inflected Zend.

The causes to which all these modern languages owe their poverty in inflected forms are so well known, historically, that the disposition to ascribe it to intellectual progress is somewhat surprising. Primitive mother-tongues, as has been seen, vary in character, from the bare simplicity of the monosyllabic Chinese and Anamese to the extreme complexity of the Sanscrit and the Algonkin. When the community which speaks one of these original tongues remains in its pristine seat, with no admixture from any foreign source, there seems to be no reason why the language should undergo any material change. Children must continue to learn their speech from their parents; and grandfather and grandchild must so speak as to be mutually understood. There is doubtless a natural inclination for change in the

human mind ; but in the case of language this inclination is checked by many powerful conservative influences—by authority, affection, custom, and necessity. Accordingly, we see that the Chinese language has remained substantially the same for more than four thousand years. The Greek schoolboy of the fourteenth century after Christ read his Hesiod or his Herodotus far more readily than an English lad of the present day can read the works of Chaucer or of Mandeville. Two thousand years in the one case had wrought less change than four hundred have produced in the other.

The causes which originate the great changes in speech, rendering some languages obsolete, and creating new idioms in their place, are two in number, both powerful in their way, and neither of them having anything directly to do with intellectual advancement. In fact, as has been hinted, the first tendency of both of them would rather be toward impoverishment alike in the arts of life and in speech. These causes may be briefly defined as conquest and migration.

The English language affords the most familiar and the most striking example of the change produced by conquest. The subjugation of the Anglo-Saxons by the Normans reduced their language from a highly inflected tongue to what has been styled (though with some exaggeration) a grammarless speech. The three genders, which were carefully indicated in both noun and adjective, ceased to be distinguished. All but one of the five cases were lost. The half-dozen different modes of forming the plural were reduced to one—only a few faint relics of the older forms remaining to show that they had existed. The subjunctive mood, feebly kept alive by grammatical purists, disappeared from the common speech. Many of the formative particles—prefixes and suffixes—which abounded in the Anglo-Saxon, and gave it an exuberant life, died out of the language ; and in their place a few incongruous elements were adopted from the speech of the conquerors. In general, however, the grammatical forms which remained were relics of the original language. At the same time a vast number of Anglo-Saxon words disappeared entirely, the places of many, though not all, being supplied by words of Latin origin, usually much corrupted and distorted in pronunciation. In short, the English speech, as it finally emerged after this great linguistic cataclysm, was a mere jargon or "camp language,"—a *lingua franca*, in which

the people of the two foreign nations, now forcibly intermingled, managed to make themselves understood by one another. To speak of this mangled and degraded "pidgin English" as an analytic tongue, and to exalt it as the product of an improved civilization, is simply preposterous. No doubt the strong intellectual powers of the two mingled races speedily made themselves manifest in this new medium of expression, and fashioned it into a language possessing many fine qualities of its own. It has drawn some valuable elements from both the idioms of which it is composed, and may thus be said in certain respects to surpass each of them, especially in the means of discriminating the nicer shades of thought. The highest poetry, eloquence, and philosophy have found it adequate to their needs. To discuss the question whether the language of Shakespeare and Chatham is superior or inferior to the languages of Cicero and Alfred would be idle. There is no arbitrator qualified to decide such a dispute. The question with which we are now concerned is different. It is quite clear that the paucity of inflections in the English nouns and adjectives is no more an evidence of progress than their abundance in the German is a proof of mental sluggishness and linguistic stagnation. The English Teutons were conquered by a people speaking a different language; the German Teutons remained independent. The English lost by the conquest many inflections which the Germans retained. To maintain that the English speech has reached its present state by a process of analysis is as absurd as it would be to say that the gardener who trims a shrub for the purpose of converting it into a hedge-plant is analysing it. The bush was needed for a new purpose, and to subserve this purpose it has been forcibly reshaped and made less luxuriant, but more symmetrical, than before.

The same explanation applies to the Romanic languages, but with a difference. The Normans, when they conquered England, were, like those whom they subdued, a civilized and christianized people. In the mixed speech which arose after the conquest, the influence of the more numerous Saxons prevailed, so far as to secure the adoption of their Teutonic grammar; but a large mass of vocables was supplied by the language of the conquerors. The heathen and barbarous Goths, Vandals, and Franks, after their easy conquest of Roman and Christian Italy, Spain, and France, were content to renounce almost

entirely their own speech, and to learn in their rude way the language of their subjects, merely dropping many of the forms, and altering the pronunciation of the words to suit their own habits of utterance. Such and no other was the origin of the Italian, Spanish, and French languages, in which there is certainly no evidence of conscious analysis or of intellectual progress.

The other influence to which the loss of inflection and of vocal elements is due, is that of migration. A colony which leaves the mother-colony to found a new community is usually composed mainly of young people, and often of persons belonging to the lower orders. It will comprise comparatively few individuals advanced in years or belonging to the wealthy and governing classes. These, however, are the natural conservators of language. They remain at home, where the speech is preserved pure and unchanged. The emigrants, few in number and occupied by the toils and anxieties of their new life, have little regard for the accuracies of speech. The easiest utterances by which they can make themselves understood suits them best. If one past tense will answer as well as two, they will be satisfied with one. If any case-endings can be dispensed with, they will cease to use them. If any consonantal elements seem to them difficult of utterance, and not needed for the scanty vocabulary of their ordinary intercourse, they will drop them. The language will thus become gradually simplified and impoverished, both in its grammar and in its lexicon. The difference between the alteration produced in this manner and that arising from conquest is chiefly apparent in the fact that the change produced solely by emigration is mere loss, and is not complicated by the introduction of new words and forms, or by the distortion of those which are retained.

It is evident that in most cases these two causes of change,—migration and conquest,—will be acting together. Conquerors are usually emigrants, and emigrants are frequently conquerors. It is not always easy to judge how far the alteration of language is due to one cause or the other. There is, however, one region in which we are fortunately freed from doubt on this point. The islands of Polynesia have been settled within comparatively recent times; and in almost every case the uniform tradition of the natives affirms that the groups or single islands at which their colonizing ancestors arrived were uninhabited.

The traditions of the Hawaiians, with the evidence derived from a comparison of languages, show that their islands were settled by emigrants from the Marquesas (the nearest inhabited land) about forty-six generations, or about fourteen hundred years, ago. The inhabitants of the Marquesas trace their descent partly from Tahiti and partly from Vava'u, one of the Tonga (or Friendly) Islands. And the people of Tahiti trace back their ancestry to the Navigator Group (Samoa) which, with the neighboring group of Tonga, was apparently the primary centre, or mother-country, of the Polynesian race. The emigrations from these western mother groups to the eastern clusters must have taken place at least two thousand years ago. The carefully preserved genealogies of the Marquesan and Hawaiian chiefs are sufficient evidence on this point.*

Now in comparing the languages of the eastern, or emigrant, communities with those spoken in the western, or mother groups, we are struck by the very slight changes which they have undergone, in words and grammar, during this long period of over twenty centuries. They still constitute, in fact, but dialects of one general language. The Samoan is nearer in words and pronunciation to the Hawaiian than the Portuguese is to the Spanish, or than the Lowland Scotch is to the English. Hundreds of words in the eastern and western groups are absolutely identical. The remainder differ chiefly in certain regular permutations, of which the rules are easily understood. These permutations are all in the direction of simplicity and ease of pronunciation. The *f* and *s* of Samoa both become *h* in Hawaii. The Tongan (or original Polynesian) *k* is dropped altogether in Hawaiian (as it has also been in Samoan), its place being supplied by a slight catching of the breath. *Ika*, the word for fish in Tongan and New Zealand, is pronounced *t's* in Samoa and Hawaii. The nasal *ŋ* (ng) becomes simply *n* in Hawaiian. *Meŋa*, which in Samoan and Tongan is branch, becomes *mewa* in Marquesan and Hawaiian.

The few grammatical changes are in the same direction of greater simplicity. The Samoan has several particles which are affixed to

* See the subject fully discussed in the "Ethnography and Philology of the U. S. Exploring Expedition," (under Wilkes) p. 117, and in the elaborate work of the late Judge Foranier of Hawaii, on "The Polynesian Race." A great scientific authority, M. de Quatrefages, has summed up the facts and arguments in his volume "Les Polynésiens et leurs Migrations," which decisively settled this interesting question.

the verb to give it the sense of the passive participle. These particles are *a*, *ia*, *fa*, *hia*, *tia*, and *ina*. Thus, from *ufofa*, to cover, we have *ufofa*, covered; from *taofa*, to hinder, *taofa* is hindered; from *alia*, to see, *aliafa*; from *ia*, to hate, *iahia*; from *ofo*, (for *ofo*) to lift up, *ofofia*; and from *oe*, to give, *oe-ina*. In Hawaiian, these affixes are reduced to two, *a* and *ia*, as in *lolo-a*, heated, *lolo-ia*, taken. Of two or three others, some traces remain in isolated forms, as in *auuli-ia*, driven away; *tau-ia*, hung up, and *pili-ia*, crowded close. The Marquesean has *a*, *ia*, *hia*, and *tia*; while the Tahitian has reduced all the suffixes to the single form *A-a*.

In the demonstrative pronouns, the Samoan makes a distinction between the singular and the plural, which is lost in the western dialects. *Lenei*, in the former, means this, and *lene* and *lala* (or *lea*), that; *nei*, *na*, and *ia*, are these and those. In Hawaiian, *leia*, *eia*, and *neia*, all alike, mean this and these; *lela* and *ia* both mean that and those. In our own language, it is well known that the plurals "these" and "those" are seldom used by the uneducated classes; they say not "those boys" but "them boys." If a boatful of illiterate men and women from England or the United States were to be cast on an unoccupied island, and to found a colony there, we may be sure that the proper plural of the demonstrative pronouns would not be found in the colony.

The result of our brief review of this most interesting linguistic field is to show that the Polynesian languages afford a crucial test and decisive proof of four most important principles of linguistic science:

1st. That the rate of change produced by lapse of time in unwritten languages, when not affected by conquest or other external influences, is extremely slow. The only change which the Samoan language seems to have undergone in two thousand years is the loss of the *k* sound, which is replaced by a slight hiatus or catching of the breath. It may be added that the evidence derived from the American languages is all in the same direction.

2nd. The change in a speech produced by emigration, when not complicated by intermixture with other languages, is considerably greater than that produced by mere lapse of time, but is still not rapid, and not important. After two thousand years the descendants

of the Samoan emigrants can still understand with little difficulty the language spoken in the mother-country.

3rdly. The changes caused by mere lapse of time or by emigration, unaffected by foreign influences, are usually governed by definite rules, and rarely lead to irregularities and distortions, either in phonology or in grammar.

4thly. The changes which are thus produced are invariably in the direction of greater simplicity. A vocal element or a grammatical inflection may be lost or modified, or exchanged for another; but no new element or inflection is ever introduced. The introduction of a new vocal element, like the Arabic guttural in Spanish, and the Hottentot "click" in the Zulu speech, is a sure mark of foreign influence.

The conclusions to which we have thus been brought as to the widely different effects produced on speech by conquest accompanied by mixture of languages, and by mere migration, not attended with such mixture, lead to very interesting results when applied to historical and ethnological questions. Among the most important of these questions is certainly that of the early peopling of Europe.

If the Aryan emigrants, who, in prehistoric times, overran Europe in successive waves of migration, had found their new abodes wholly unoccupied, there is no reason for supposing that the languages which their descendants now speak would differ much more from one another in grammar or vocabulary than the Polynesian languages now differ among themselves. The actual differences, however, are immensely greater, and are of such a nature as to leave no doubt that they have been caused by the attrition of different idioms and habits of utterance, brought together in forcible collision.

Recent researches have shown that Europe, or the greater portion of it, was occupied in early times by a non-Aryan population, belonging perhaps to more than one race. Scholars are agreed in recognising in the Euscarians, or Basques, the survivors of at least one section of this primitive population; and most archaeologists identify them with the Iberians, who in the earliest historical period still held large portions of France and Spain, and of whom Tacitus discovered traces in Great Britain. The language of the Basques belongs to the polysynthetic class, and, like all languages of that class, is exceedingly diffi-

cult of acquisition. The Aryan conquerors would naturally not attempt, like the Teutonic conquerors of southern Europe or the Norman conquerors of England, to acquire the speech of their subjects. Like the Roman conquerors of Gaul, they would retain their own language, but in such a simplified form as would adapt it for communication with the conquered people. The mingled race would speak an idiom which would be in the main Aryan, but would have lost many vocal elements and many grammatical inflections. The new language would be to the primitive Aryan what the English is to the German, or what the French is to the Latin. It would be a less complex speech, and more easy of pronunciation; and while the mass of its vocables would be of Aryan origin, but much corrupted and abbreviated, there would be in it a considerable number of words derived from a different source. This description applies to all the European languages of Aryan stock, from the Greek to the Celtic; but the change and corruption are greater, as might be expected, the further west we advance.

Thus the application of the elementary principles of comparative philology disposes of the hypothesis of the European origin of the Aryan race, which some eminent scholars have lately maintained on various and often contradictory grounds. The notion that the Aryan speech could have originated among the comparatively simple and formless idioms of western Europe, and, advancing eastward, could have yielded such highly complex languages as the Zend and the Sanscrit, is one which finds no countenance in the laws of linguistic science, or in any known example of a like evolution. Nor should it be objected that the ancient Aryan tongues of Europe, as they are known to us, are of later date than the ancient Aryan tongues of Asia, and may therefore have suffered more disintegration and loss by the mere lapse of time. The facts do not sustain this objection. We know the condition of the Greek and the Latin in the fourth century before Christ, when the Sanscrit and the Zend were flourishing tongues; and we know the character of the Mæso-Gothic language at a date not very much later. Greek, Latin and Mæso-Gothic alike show evidences of the loss and distortion caused by the violent impact of other tongues. Conquest and migration—the migration of the Aryan hordes into Europe, gradually overpowering and absorbing the earlier populations—will alone account for the

appearances which these ancient Aryan languages of Europe present to us.

The objections which have been made to the new theory of the origin of languages, in the form in which it was set forth, very briefly and imperfectly, in my former essay on the subject, resolve themselves into two, which take the form of questions. The first proceeds from philologists who are inclined to accept the theory, but ask for more evidence, and particularly for evidence that children would be able not only to invent a speech, but also, as they grew older, to endow this speech with inflections. The other objection comes from those who have heretofore held the common and, it may be said, natural view that inflected languages are the growth of ages of slowly accumulated culture. They ask for evidence that languages equal in variety of inflections, in the capacity for subtle distinctions, and in comprehensive power of expression, to the classic Aryan and Semitic tongues, have ever been found among barbarous peoples.

These objections, or rather inquiries, are both entirely reasonable; and both have been presented, with equal courtesy and force, by very eminent authorities,—the first, for example, by Professor Sayce, who in his late most interesting address, as President of the Section of Anthropology in the British Scientific Association, while complimenting the theory as "very ingenious," and pointing out, more clearly than its author had done, its utility in explaining some important linguistic problems, yet demurs to the sufficiency of the evidence thus far offered; the second by an illustrious statesman and scholar, who has done me the honor of turning aside for an hour from the affairs of empire, and from Homer, to consider the views suggested by me, and to discuss them with his usual candor and acuteness. I need not add that any suggestions proceeding from Mr. Gladstone on a question of philology must always deserve the most respectful consideration.

On the question of the capacity of children for inventing entirely new words and forms, evidence is steadily accumulating. For the present, it will be sufficient to present one testimony which, alike from its source and its character, will be found eminently satisfactory. It comes from a very distinguished German professor, the first Sinologist of Europe, himself the son of a master of philological

science. The child-language to which it refers is that of his own nephew. What is specially remarkable is that the novel words and forms were not employed in converse with another child, but were the spontaneous products of the child's own linguistic faculty. That this faculty should be particularly strong in a grandson of Dr. Hans Conon von der Gabelents, and a nephew of Dr. George von der Gabelents, will surprise no one. I give the particulars precisely as they have been furnished to me by Professor von der Gabelents, and in his own happily worded English:

"My brother Albert's eldest son George, before he had learned his mother-tongue, called things by names of his own invention. In these names the constant elements were the consonants, while the vowels, according as they were deeper or higher, denoted the greatness or smallness. For instance, his term for ordinary chairs was "*labail*," apparently quite a self-made word. Now, he would call a great arm-chair "*labull*," and a little doll's chair "*libill*." The root for round objects was *m—m*. He called a watch or a plate "*mem*," but a large dish, or a round table "*mum*;" the moon was likewise "*mem*," but when he first saw the stars, he said "*min—min—min—min*." His father and, at first, every grown-up male person, was called *papa*, till he learned to distinguish between Papa and Gross-papa (*o-papa*) and henceforth called all other gentlemen *o-papa*. Now, I am a head taller than was my father. So, one day, when seeing my father and me together, baby called the former "*o-papa*," and me "*u-pupu*." One day in winter he saw his father in a large fur cloak and with his hat on. This impression he uttered with the word "*pupu*," meaning a very big papa. The boy soon gave up his idiosyncratic endeavors, learning German before his next-born sister had reached the age of beginning speech. So that language could have no further grammatical development."

In this most interesting case, we see clearly how the Semitic system of inflection, with internal vowel changes, may have originated. If this highly gifted child had been left with an equally intelligent girl, to grow up by themselves, after the death of their parents, in some sheltered or fruitful nook or oasis of Arabia, Oregon, Brazil, or Central Africa, can we doubt that they would, by the time they had reached maturity, have framed for themselves and their posterity a

language as elaborate, varied, and complete as the Arabic or the Sanscrit—or as any of those still more remarkable languages of which an account has now to be given, in response to the other class of inquiries?

The opinion which prevails widely among scholars, and is sustained by many treatises on philology of very high reputation, that the languages of the Aryan and Semitic families are the only tongues in which genuine inflections are found, and that the variations in all other languages are of a purely agglutinative character—which sometimes merely simulates inflection—is an opinion which, though once seemingly warranted, could only have retained its hold through the neglect of students to investigate fully the facts that have been steadily accumulating during the last half-century. It is now time to prove by the highest evidence, accepted by the best authorities, that this opinion is utterly erroneous. If it can be shown that languages as clearly inflectional and as happily expressive as any of the Aryan or Semitic tongues are spoken by tribes in a low, almost the lowest, stage of barbarism—in regard to whom the idea of a gradual growth of linguistic development by slow accessions of culture would be an utter absurdity—the propositions required by our theory will probably be deemed to be sufficiently established.

When, many years ago, it fell to my charge to make the first ethnographical survey of Oregon, I found in that region several families of languages remarkable for the great number, variety, and expressiveness of their grammatical variations. Among these, the most striking, so far as the knowledge which I then gained would enable me to judge, was the Sahaptin family, comprising two principal languages and several dialects. Of the leading language, the Sahaptin—then spoken by a tribe of about two thousand persons, commonly known among the whites as the Nez-percés,—I was so fortunate as to obtain a complete account from a very able and accomplished American missionary, the Rev. A. B. Smith, who had resided three years among them, and who kindly placed in my hands his manuscript grammar, comprising one of the most thorough and profound analyses ever made of an unwritten tongue. Its accuracy I had good opportunity of testing, while procuring an extensive vocabulary from the natives, with the aid of another highly educated and indefatigable

missionary, the Rev. Dr. Whitman,—whose deplorable fate, which befell him, with his family, a few years after I met them, (their massacre by another Indian tribe) forms one of the saddest tragedies in the history of modern missions.

The Sahaptin is throughout an inflected language. Its nouns have eight cases—nominative, genitive, accusative, two datives and three ablatives. They have two numbers, the plural being formed from the singular, for the most part, by a syllabic reduplication, similar to that which forms the perfect tense in the Sanscrit, the Greek and the Mæso-Gothic. Thus *pitin*, girl, makes in the plural *pipitin*; *atsoi* old woman, *atsoai*; *tahs*, good, *titahs*. To this rule there is an exception in the case of words expressing the various family relations, where the plural is formed by adding *ma* to the singular, as *pika* mother, pl. *pikama*. The adjectives are varied like the substantives and agree with them in case and in number. The following are the case variations:

Nom.	<i>inik</i> , house	<i>tahs</i> , good
Gen.	<i>inim</i> , of a house	<i>tahnim</i>
Acc.	<i>inina</i> , house	<i>tahna</i>
1st Dat.	<i>iniph</i> , to or for a house	<i>tahoph</i>
2nd Dat.	<i>inipa</i> , in or on a house	<i>tahopa</i>
1st Abl.	<i>iniki</i> , with a house (instrument)	<i>tahsi</i>
2nd Abl.	<i>iniphnik</i> , from a house	<i>tahphnik</i>
3rd Abl.	<i>inikain</i> , for the purpose of a house,	<i>tahsain</i>

It will be seen at once, in the dative and ablative cases, how much more "profoundly reasoned and accurately classified" (to use an expression which I shall have occasion to quote from Professor Max Müller) are the Sahaptin case-distinctions than the Aryan.

It is possible, and indeed probable, that both in the Sahaptin and in the Aryan languages the case terminations, or many of them, are relics of primitive prepositions; but if so, all traces of such prepositions seem to have vanished, at least from the Sahaptin. If they once existed, it was, I believe, in the primitive household in which the language was first formed and brought to its fullest maturity, while all the members were still united.

There is, however, fair reason for questioning whether the case terminations may not, in some instances, have been, from the first,

pure inflections, or phonetic changes, suggested by the language-forming faculty, to express distinctions of meaning. As Professor Sayce has well suggested in his "Principles of Comparative Philology," the original Arabic case-endings, which are the three primary vowels, *a*, *i* and *o*, either pure or nasalized—and which, as Orientalists suppose, formerly prevailed throughout the Semitic languages—could hardly have originated in any other way. And certainly the variations by internal vocalic changes, so characteristic of the Semitic languages, and so common in the Aryan tongues, could not have sprung from any agglutinations.

These internal variations are frequent in the Sahaptin, and are particularly notable in the conjugation of the verb. The Sahaptin verb far surpasses both the Aryan and the Semitic in the variety of its forms and the precision and nicety of its distinctions. It has six moods—indicative, usitative, suppositive, subjunctive, imperative, and infinitive. There are nine tenses—present, perfect, recent past, remote past, aorist or past indefinite, present future, indefinite future, recent past future, remote past future. Each verb has two verbal adjectives or participles, three verbal nouns, and an adverbial derivative. Further, each verb has many forms, analogous to the Hebrew conjugations. Thus *habisa*, to see, has a reciprocal form, *pihabisa*, to see each other; a reflective form, *inatsa*, I see myself; a causative form, *shapatsa*, to cause to see, to show; a successive form, *wiatsa*, to see one thing after another; and a transitory form, *takatsa*, to see suddenly, or for a short time. But it is impossible, in such a mere outline, to give anything like an adequate idea of the richness of the verb in this remarkable speech. The point, however, to which attention is particularly to be directed, is that the variations are evidently inflections, pure and simple. This is shown by the fact that many of them are produced by changes in the primary elements, both vowels and consonants: thus from *habisa*, I see, we have (among a vast variety of similar changes) *aksaka*, (recent past) I have just seen him, *absana*, (remote past) I did see him, *alahna*, (aorist) I saw him, *aktatsa*, (present future) I am about to see him, *ahnu*, (future) I shall see him, *ahnak*, (usitative) I am wont to see him, *abinal*, (suppositive) if I see him, *ahnim*, (imperative) see him! *hablash*, (infinitive) to see.

More remarkable, in certain respects, is the substantive verb. The common opinion, expressed in philological compendiums, is that the verb of pure existence is the highest outcome of culture and reflection in the Aryan and Semitic languages; and scholars have exhausted their ingenuity in tracing its supposed origin and primitive meaning. In the Sahaptin we find this verb used frequently, as the missionaries affirm, and in precisely the same sense as in Greek and English. By a curious coincidence, its form bears a remarkable resemblance to that of the Aryan verb. Its root is *asā*. In Sanscrit, the corresponding root is *as*, which some philologists suppose to have originally meant either "to breathe," or "to dwell." But the example of the Sahaptin would seem to show that there is no necessity for resorting to any such derivation, and that the verb may well have been an original invention of the earliest makers of each tongue. The first three tenses in the conjugation of this verb will show that its forms are as completely inflectional as those of the Sanscrit, the Greek, or the German:

PRESENT TENSE.

<i>wash</i> , I am	<i>washih</i> , we are
<i>awash</i> , thou art	<i>athwashih</i> , ye are
<i>hiwash</i> , he, she, or it is	<i>hiwashih</i> , they are

PRESENT PAST TENSE.

<i>waka</i> , I have just been	<i>washaka</i> , we have just been
<i>awaka</i> , thou hast etc.	<i>athwashaka</i> , ye have, etc.
<i>hiwaka</i> , he has, etc.	<i>hiwashaka</i> , they have, etc.

REMOTE PAST TENSE.

<i>waka</i> , I was	<i>washina</i> , we were
<i>awaka</i> , thou wast	<i>athwashina</i> , ye were
<i>hiwaka</i> , he was	<i>hiwashina</i> , they were

Waka, I have just been, differs from *waka*, I was, solely in the different shade of the principal vowel sound, the *a* in the former having the sound of *e* in "wall," and the *a* in the latter the sound of *a* in "father." A clearer instance of a pure-inflection of the Semitic cast could not be found in any language.

Another very curious coincidence between this verb and the Aryan substantive verb deserves to be mentioned. The Sahaptin *asā*, like

the Aryan *as* or *es*, is deficient in several tenses and moods, and these are supplied, as in the Aryan, from another verb, meaning "to become." This verb in Sahaptin is *witawaka*, I become, which makes in the perfect *witawash*, I have become or been, (corresponding to the Latin *fui*, from a root meaning to grow,) in the aorist, *witawata*, I became or was, and in the future *witawata*, I shall become or be,—all purely inflective forms.

How completely the Sahaptin verb corresponds in meaning and usage to the Aryan is shown by the examples given by Mr. Smith. Thus the phrase "what I have said is true," reads in the Sahaptin:—

<i>ioh</i>	<i>kah</i>	<i>teekaku</i>	<i>itwin</i>	<i>hiwash</i>
that	which	I-have-said	true	it is,

answering word for word, and inflection for inflection, to the Latin "*id quod dixi verum est.*" So again,—with a slight idiomatic variation in the order of the words—a Sahaptin would say, for "one is about to go who is skilful,"—

<i>naks</i>	<i>hibutatasha</i>	<i>ka</i>	<i>ipi</i>	<i>wapou</i>	<i>hiwash</i>
one	is-just-now-going	who	he	skilful	is.

Of the immense wealth of inflections possessed by the Sahaptin verb, some idea may be formed from the fact that the paradigm of the verb "to see," in its primary or simple conjugation, occupied in Mr. Smith's grammar no less than forty-six pages of manuscript; and this did not include the six derived conjugations, each of which possesses all the variations of the simple verb. It must not, however, be supposed that the Sahaptin is limited merely to inflectional forms, and that it has no capacity for agglutination. Were this the case, it would be far inferior to the Aryan languages, in which agglutination, or, in better phrase, composition, plays a most important part. In fact, it may be said to be chiefly in this capacity that the Aryan languages surpass the Semitic. And it is deserving of remark that our admiration is given to the Aryan languages in precisely the proportion in which they possess this power of composition or agglutination. If we deem the English, which can promptly manufacture at need such words as railroad, steamboat, and firework, superior in the power of compact expression to the French, which can only say *chemin de fer*, *bateaux à vapeur*, and *feu d'artifice*, we no less admit the much greater

superiority of the Greek, to which we constantly resort for such agglutinative forms as telegraph, photograph, spectroscope, pyrotechnics, electrotype, and hundreds like them. The power of composition in most of the American languages, instead of being, as some have imagined, a mark of inferiority, is in reality, as Duponceau long since pointed out, one of their chief claims to our admiration.

Before giving a typical example of this power in the Sahaptin, I may refer to the theory put forth by Professor Sayce in his "Principles of Comparative Philology," and maintained by him with much force of argument,—that all language begins with the sentence, and that the separate words which compose the primitive sentence are the product of later analysis. Against this view it has been urged that, in the nature of things, analysis, or, rather, the single elements, must precede synthesis. We must have the elements before we can put them together. The whole question, however, becomes clear if we bear in mind that all languages must have begun on the lips of children, and that no young child, when beginning to speak, ever yet uttered a sentence. As has been already remarked,—and as every parent knows,—the child begins with single words, and usually with monosyllables, or at the most disyllables. As he grows older, he puts his words together; he compounds and inflects them. Finally, when full grown, he utters his thoughts in sentences, in which, unless with a conscious effort, he rarely thinks of the word and never of their roots. Thus, since all completed language is only known to us in this final stage, or as it is spoken by grown people, Professor Sayce's theory, perplexing as it seems at first thought, is fully justified by the facts.

The word which Mr. Smith gave me as an example of the remarkable power of composition in the Sahaptin is one which, since it was first published, has been often quoted. Though long, it is anything but harsh or hard. On the contrary, it is both euphonious and, to one familiar with the language, evidently easy of comprehension. It is a word of nine syllables, forming several distinct groups,—*Ai-tau-tu-ah-wah-wah-hau-us*; and it means "he travelled by on foot in a rainy night." This, it will be seen, is a complete sentence, and it is one which is very easily analysed. The first syllable, *Ai*, is the prefix of the third person singular; it bears a curious resemblance in sound and meaning to the English pronoun "he," but is used only as a

prefix—that is, as an inflection; for the separate pronoun meaning “he” is *tpi*. *Tau* has reference to anything done in the night—*tuala* to an action performed in the rain; but these expressions are never used alone, and are not derived, so far as is known, from any verbal root. *Witnan* is from the simple verb *witnasa*, to travel on foot. The verbal noun, which is the simplest form of the root, is *witna*; the last *n* in the compound form seems to be added merely for euphony. *Kau* is from the verb *kawana*, (root *kawan*) to pass by. *Na* is the suffix of the indicative mood, aorist tense, direction from the speaker. A literal version of this most picturesque and expressive sentence-word would be—“he, at night, in the rain, travelling on foot, passed by, away from me.” By three additional syllables we can bring the verb into the causative conjugation, and change the direction of the movement towards the speaker: *Hi-shap-a-tre-tuala-witnan-kau-nim-n* will signify “he made him travel this way on foot in a rainy night.”

But it may be said that to form and preserve such a language as the Sahaptin or the Sanscrit, something more than a strong linguistic faculty is needed, both in its first framers and in their descendants. There must be higher endowments—powers of combination, of memory, of abstraction, of logical reasoning, working perhaps unconsciously, but still working effectively and constantly.

This view is apparently a just one, and it is proper to show that the circumstances in the present case fully confirm it. While gathering the language of this tribe, I had occasion to study their character, and an excellent opportunity of ascertaining it from the missionaries and other white residents. At that time I wrote of them—“The Sahaptins (or *Vas-prode*), are the tribe who, several years ago, despatched a deputation to the United States, to request that teachers might be sent to instruct them in the arts and religion of the whites. Their good dispositions have been much eulogized by travellers, and there seems to be no reason to doubt that they are superior to the other tribes of this territory in intellect and in moral qualities.” Nearly thirty years after this measured commendation was published, the whole continent rang with the praises of the intellectual power, the eloquence, the military skill, the unconquerable firmness, the magnanimity, the humanity, and the other noble qualities of these remarkable barbarians. In the admirable work of that able and

fair-minded historian, Mr. J. P. Dunn, entitled "The Massacres of the Mountains," a narrative is given, drawn from official documents and other authentic sources, of the outbreak of the *Nes-percée* in 1876. After enduring many wrongs with unexampled patience, they resisted at last an order so manifestly unjust that the military officers charged with its execution had protested against it—an order to deprive them of their lands. They were led by their famous chief, "*Nes-percé* Joseph," whom the historian pronounces "the ablest uneducated chief the world ever saw." In the preliminary negotiations, the American commissioners reported that "he exhibited an alertness and dexterity in intellectual fencing that was quite remarkable." His influence long withheld his people from rising. "When they could no longer be restrained, he put himself at their head, and displayed as a leader talents worthy of Hannibal or Scipio. He gained battles by most ingenious strategy, and, when repulsed by numbers, proved himself as formidable in retreat as in advance. Unable to maintain his ground against the forces of the American army, he adopted a bold resolution. The famous "Retreat of the Ten Thousand" was about to be surpassed by these indomitable barbarians. Gathering his whole tribe, old and young, women and children, with his mounted warriors in front and rear, Joseph took up his desperate march, far eastward and northward, towards the Canadian line. The distance was a thousand miles. The track led over the Rocky Mountains in their ruggedest defiles, through wide rivers treacherous with quicksands, and across long stretches of broken and arid plains. The pursuing troops, guided by Indian scouts—the savage Bannocks—hung upon the rear of the fugitives. Other troops from the forts on the plains came hurrying to intercept them. Joseph fought his way through all, defeating them, capturing horses and ammunition, and in one instance a howitzer. His warriors who fell were scalped and mutilated by the Bannock scouts; their women when captured were subjected to every indignity. The *Nes-percée* refused to retaliate. No slain enemy was scalped by them. The white women who were taken were dismissed by them unharmed. Their conduct and their wrongs awakened the sympathy even of the rude pioneer settlers. When these were called upon to assist the soldiers, they replied, in their expressive frontier phrase, that they "had not lost any Indians," and consequently had no occasion to hunt for any. They traded

peacefully with them, and let them pass. At length the much harassed and weakened, but still undaunted, band reached a position within thirty-five miles of the British boundary. One day's march would have placed them in safety, when a powerful force from Fort Keogh—cavalry, infantry, and artillery—suddenly confronted them and barred the way. Surrounded on all sides, the Nez-perces fortified themselves and stood so resolutely at bay that their pursuers—fortunately led by an officer noted for his benevolent disposition, and detesting the task cast upon him—were glad to give them almost their own terms of surrender. "Thus," says General Sherman, in his official report as Commander-in-Chief of the American army, "has terminated one of the most extraordinary Indian wars of which there is any record. The Indians throughout displayed a courage and skill that elicited universal praise; they abstained from scalping, let captive women go free, did not commit indiscriminate murder of peaceful families, which is usual, and fought with almost scientific skill, using advance and rear guards, skirmish lines, and field fortifications." To this our author adds that when the captives were taken down the Missouri River, the people along that stream, who had been used to Indians all their lives, were constantly remarking, "What fine-looking men!" "How clean they are!" "How dignified they appear!"

To sum up our argument,—if we affirm that the Aryan speech, with its many excellences, could only have originated among a people of singular intellectual capacity—a capacity which, as we proudly, if somewhat vaingloriously, claim that they have transmitted to their descendants—is it not a clearly logical conclusion, from similar premises, that the exquisitely framed and admirably expressive Sahaptin tongue was composed by speakers endowed with at least equal genius, which they, too, have bequeathed to their posterity?

But the Sahaptin is not the only inflected language of this superior stamp in America. There are others whose excellence is attested by authorities of the highest rank in philological science. Among these are the languages belonging to the great Algonkin family. This widespread family might well be styled the Aryan stock of America—stretching as it does, or did, from Nova Scotia to the Rocky Mountains, and from Hudson Bay almost to the Mexican Gulf, and comprising more than twenty languages as different from one another as

the Portuguese is from the Roumanian. All these languages—the Lenape (or Delaware), the Micmac, the Massachusetts, the Mohogan, the Ojibway, the Oree, the Miami, the Blackfoot, and the rest—are remarkable for their abounding inflections, their subtle distinctions, their facility of composition, and their power of expressing abstract ideas. It was Duponceau, the father of American philology, who first brought these qualities to the notice of students more than sixty years ago, in his published correspondence with the missionary Heckewelder (1816), in his preface to his translation of Zeisberger's Delaware Grammar (1827), and in his famous "Mémoire" on the subject, which received from the French Institute the "Volney Prize," in 1836. From his preface to the Delaware Grammar a few paragraphs may be cited, which will amply confirm all that I have stated on this question. After describing their happy mode of forming compound words, he adds:—"They have also many of the forms of the languages which we so much admire—the Latin, Greek, Sanscrit, Slavonic and the rest—mixed with others peculiarly their own. Their conjugations are as regular as those of any language that we know, and for the proof of this I need only refer to the numerous paradigms of Delaware verbs that are contained in this grammar, in which will be found the justly admired inflections of the languages of ancient Europe." "There is," he adds "no shade of idea in respect to the time, place, and manner of action which an Indian verb cannot express." As an instance, he gives the Delaware phrase for "if you do not return," and compares it with a similar expression in European tongues. The Delaware is, "*mattatah gluppicoque*," which is thus explained: *matta* is the negative adverb, no; *tah* is the sign of the future, with which the adverb is inflected; *gluppicoque* is the second person plural, in the present subjunctive, of the verb *gluppicocthon*, to return. The sentence thus clearly expresses every idea intended to be conveyed, including both the futurity and the uncertainty. "The Latin phrase, *nisi veneris*, expresses all these meanings; but the English, "if you do not come," and the French, "*Si vous ne venez pas*," have by no means the same elegant precision. The idea which in Delaware and Latin the subjunctive form conveys directly is left to be gathered in the English and French from the words *if* and *si*; and there is nothing else to point out the futurity of the action. And where the two former languages express everything

with two words, each of the latter requires five, which yet represent a smaller number of ideas. To which of these grammatical forms," asks Mr. Duponceau, "is the epithet 'barbarous' to be applied?"

He then proceeds to express his conclusion on the whole question in measured but weighty words. The astonishing art and method which have presided over the formation of these Indian languages are not, in his opinion, to be considered a proof (as many have been inclined to believe) that this continent was formerly inhabited by a civilized race of men. It is more natural, he holds, to suppose that men were endowed from the beginning with a natural logic, which leads them, as it were, by instinct, to such methods in the formation of their idioms as are best calculated to facilitate their use. He is brought to this decision because he finds that "no language has yet been discovered, either among savage or polished nations, which was not governed by rules and principles which nature alone could dictate, and human science never could have imagined."

Such were the views formed and expressed nearly seventy years ago by the profoundest and most philosophic reasoner that had then devoted himself to the study of the American languages—a reasoner, I may venture to add, who has not yet been surpassed, either in breadth of learning or in depth of thought, by any one who has written on this subject. Fifty years later, another very high authority reaffirmed these views, in even more decided terms. The opinion expressed by Prof. Whitney, in his "Life and Growth of Language," though apparently referring to American idioms in general, evidently relates more especially to those of the Algonkin stock. I have had occasion to quote it elsewhere, but the quotation well deserves to be repeated. "There are," he remarks, "infinite possibilities of expressiveness in such a structure; and it would only need that some native-American Greek race should arise to fill it full of thought and fancy, and put it to the uses of a noble literature, and it would be rightly admired as rich and flexible, perhaps, beyond anything else that the world knew."

To this eloquent passage I would only venture to take one exception. The native-American Greek race has already arisen, and speaks the language in question. A highly endowed language can only have originated with a highly endowed race. When we consider the succession of singularly able leaders whom the Algonkin tribes have pro-

duced during the brief term of our intercourse with them, we must feel satisfied that the people to whom these leaders belonged were far above the common rank. As men like Solon, Miltiades, Themistocles, Pericles, Epaminondas, Phocion, and the rest of the long line of Greek worthies, must have sprung from a highly gifted community, so we may be sure that forest statesmen and leaders like Powhatan, Philip of Pokanoket, Miantonomah, Pontiac, Tecumseh, Black Hawk, and, in our own day, Foundmaker and Crowfoot,—men who have won the respect and admiration even of their enemies,—could only have arisen among a people of character and talents corresponding in elevation to to their own.

Still another American race may be mentioned, the Iroquois, about whose remarkable abilities there can be no question. As is well known, their famous confederacy, the Five Nations, held, for a long time after the French and English colonies were founded, the balance of power in North America. If they had not, by their hostility to the Huron and Algonkin allies of the French, been led to cast their influence on the side of the English, it is the opinion of competent historians that the whole region west of the Alleghanies, from Canada to the Gulf of Mexico, would now be French. Their happily devised political system, unsurpassed in ancient or modern times, has been well elucidated by the penetrative genius of Morgan. Their oratory, their sagacity, and their prowess have been celebrated by many eminent writers. In their highest prosperity, their numbers did not exceed, probably did not reach, twenty thousand souls. It may fairly be affirmed that, since the world began, so much intellectual force, public spirit, eloquence, statesmanship, and military skill have never, to our knowledge, being elsewhere concentrated in so small a community as that which composed the Iroquois cantons of northern New York in the seventeenth and eighteenth centuries.

The language spoken by this people,—a highly inflected, rich, and sonorous tongue,—is too well known to American scholars to need a minute description. Its stately vocables, fortunately preserved in the names of places, have rescued (some of the finest natural features of our continent from the ignoble baptism which has elsewhere degraded others. Onondaga, Oneida, Ontario, Saratoga, Toronto, Ticonderoga, Adirondack,—such a descriptive compound,—mark the euphonic

character of the speech. We may well be grateful to an idiom which has preserved the world-famous torrent of Niagara from the too possible designation of "Tompkins' Falls." The wealth of forms and the power of expression in the language have impressed every student. Two hundred and fifty years ago, the scholarly Jesuit, Brebeuf, compared it to the Greek, and found it in some respects superior. In our own day, this opinion has been reinforced by an authority of the greatest weight. Professor Max Müller, who learned the language from a Mohawk undergraduate at Oxford,—now an esteemed physician in Canada,—has written of it in terms of singular force. To his mind, he declares, the structure of the language "is quite sufficient evidence that those who worked out such a work of art were powerful reasoners and accurate classifiers." Powerful reasoners and accurate classifiers! To appreciate the full strength of these expressions, we must consider whether they could be properly applied to the framers of the great classical tongues of the old world, the Aryan and the Semitic; and we must honestly decide that they could not. The irrational and confused gender system of the Aryan, and the imperfect tense system of the Semitic stock, must exclude them from the comparison. It is a noteworthy fact that the two foremost philologists of Europe and America, both devoted students and admirers of the Aryan speech, have compared this speech in its highest development with the leading American tongues, and that both, though differing widely in their linguistic theories on other points, have pronounced in the strongest terms their opinion of the structural superiority of these American languages.

It will perhaps be asked why, if the American language and their framers were of this superior character, the results achieved by the latter have been so small. How did it happen that the Algonkins, the Iroquois, and the Sahaptins remained barbarians of the Stone Age, while the Aryan nations attained the highest pitch of civilization. The question is a fair and pertinent one. The answer is found in a single word,—opportunity. We recognize the prime importance of occasion and surroundings to an individual, but are apt to forget that they are equally essential to a race. We admit that Milton, condemned by fate to ignorance and penury, would probably have remained "mute and inglorious." If the American civil war had not

occurred, General Grant would, in all likelihood, have lived and died an industrious tanner in an obscure Illinois town, utterly unconscious of the powers which were destined to make him one of the most famous commanders of modern times. If the Aryan race had been so unfortunate as to make its first appearance on the shores of the St. Lawrence, or on the western prairies, or amid the uplands of Oregon—possessing no domestic animal but the dog, no cereal but maize—surrounded not by civilised nations like the Accadians, the Assyrians, the Phœnicians, the Egyptians and the Chinese, qualified to teach it architecture, astronomy, the alphabet, the smelting of metals, ship-building, the use of the mariner's compass, but by wandering hordes of hostile savages—we have no ground for supposing that this race, whatever might be its natural endowments, would have attained any height in culture beyond that which was reached by the most capable American tribes, whose ill-fortune placed them in that hopeless position.

This is a point which, in its connection with our thesis, requires some further consideration. The doctrine of evolution, whose importance I would in no way depreciate, has, in reference to the intellectual powers of the human race, been strangely misapplied, to such an extent as to lead to serious errors. The misapplication, it must be said, began with Darwin himself; but he, with that noble candor which distinguished him, admitted and corrected the mistake, in which some of his followers still persist. We know how frankly and fully, near the close of his life, he withdrew, on better information, the opinion which he had originally expressed of the low intellectual and moral character of the Fuegians. By just implication, this reversal of his opinion will apply to all savages—for the Fuegians have always been ranked among the lowest of the low. On further consideration, it becomes apparent that this final judgment of the great investigator of nature was in strict accordance with the law of evolution. It is certain that there has been, from one geological age to another, a steady though somewhat irregular increase in the size and complexity of the brains of vertebrate animals. But this increase appears to occur in the transition from one species to another. When a species is once established, there is no evidence (as I am assured by high zoological authority) to show that any material change in the quantity

or quality of its brain occurs from first to last. When "speaking man" appeared as a new species on the world's stage, the size and power of his brain was fixed, once for all. There are variations in different races, as there are differences in this respect among children of the same parents; but the variations do not pass certain defined limits, and are constantly tending, as Mr. Galton has shown of the human stature, towards the general average.

Thus it becomes apparent that in the case of man, or at least of speaking man—for if there was a speechless *homo primigenius*, he belonged to another species—the process of evolution, or, more properly speaking, of development, applies, not to his natural capacity, but to his growth in knowledge. Just as his bodily stature and strength have remained the same from the earliest times and in all stages of culture—as his osseous remains and the measurements of existing races clearly show,—so there can be no reasonable doubt that his mental stature and force have remained unaltered. We have no reason to doubt—we have every reason to believe—that the earliest Aryans, savages as they undoubtedly were, could reason as profoundly and feel as keenly as the most cultivated of their descendants. As the structure of language depends entirely on the natural capacity of its earliest framers, it is clear that the Aryan tongue, in its primitive form, must have possessed every quality and every power of expression which have ever belonged to it. If, among other barbarians, there have been tribes equal in natural capacity to the barbarous Aryans, their languages will equally show these eminent qualities.

To apply these propositions,—if the language of the latest Aryans possesses and constantly exercises the power of expressing abstract ideas, we may be certain that this power was possessed and constantly exercised by the first Aryan family. And further, among the barbarous tribes of the present day, we may expect to find the same power possessed and exercised, with greater or less fulness, in proportion, not to their degree of cultivation, but to their natural capacity. We should expect that highly endowed communities of barbarians, like the Algonkins and Iroquois, would have languages abounding in abstract and general expressions. Such, in fact, we find to be the case. If we take what Professor Max Müller styles abstract terms of the second degree—the most elaborate if not the most metaphysical of all

—we find them abundant in both tongues. Each language, in fact, has, like each Aryan tongue, a special termination to express these abstractions. In the Iroquois this termination is *awa* or *towa*; in the Ojibway branch of the Algonkin, it is *win*. Thus, from the Iroquois *ahawawa*, to be ashamed, (root, *ah*) we have *ahawawawa*, shamefulness, ignominy; from *ahonononawawa*, to meditate, (root, *ahonon*) we have *ahonononawawawa*, meditation; from *ahawawawa*, to fight, (root *ahaw*), *ahawawawawa*, strife; from *ahawawawa*, to be able, (root, *ahaw*) *ahawawawawawa*, ability. The Ojibway *bimadaw*, to live, yields *bimadawawin*, life; *awigaw*, to love, *awigawawin*, affection; *jigaw*, widow, *jigawawin*, widowhood, *ahawaw*, mild, *ahawawawin*, mildness; *bawaw*, clear, pure, *bawawawin*, clearness, purity. *Bawaw*, quiet, yields two verbal forms, *bawawaw*, to be still, and *bawawawin*, to be peaceful, and two abstract nouns, *bawawawawin*, stillness, silence, and *bawawawawin*, peacefulness—and so on, interminably, through the dictionary.

But it is, perhaps, in the abstract terms of the first degree, the most primitive and in a certain sense the profoundest of all, that this original mental capacity is most strikingly shown. Professor Max Müller, in his "Science of Thought," well observes that, when certain ethnologists "tell us that there are savages who have not a single abstract term in their language, they ought first of all to give us the names of the savages to whose language they refer, and, secondly, they ought to explain how these savages could possibly have formed the simplest names, such as father, mother, brother, sister, hand and foot, etc., without previously possessing abstract concepts from which such names could be derived." To illustrate this pregnant suggestion, let us take some instances drawn from the Indian languages by writers of the best authority. The first word in Professor Max Müller's list is "father." The Hon. J. H. Trumbull, than whom no higher authority on the Algonkin tongues can be adduced, derives this word, *noow*, in the Massachusetts dialect, from the root *noow*, which means "from," "out of." "*Noow*," he observes, "expresses, primarily, not paternal but filial relation—'I come from him'; *noow* (*his father*) 'he comes from him,' or with transposition of subject and object, 'he *froms* him.'" In the Iroquois, according to the distinguished Canadian philologist, the Rev. J. A. Ouq, the word has its origin in a conception perhaps even more subtle.

Rabionka, my father, comes from the verb *wabien*, (root, *ion*), "to have," in what is styled the "diminutive form," which is indicated by the suffix *ka*. *Rabionka* means, strictly, "he who has me little."

Wabionka, my mother, is the feminine of the verb, and means "she who has me little." The same verbal root supplies the word for son.

Rionka, my son, means "I have him little."

In the Algonkic, Mr. Trumbull tells us, one of the words for man has for its root *and*, or (nasalised) *and̄*, which signifies an animal that walks upright, or, more exactly, the one uplifted, from a root *ap* or *omp*, which forms verbs signifying to raise, lift, rise, ascend, and the like. Another is from the demonstrative *in*, this, which is cognate with *nin* or *ni*, I; a man is "such as I," or "such as this one." Dr. Brinton, in his recent work, "The Lenapé and their Legends," has shown how this demonstrative or pronominal root, *in*, or *ni*, is developed into an extraordinary number of derivatives, abundantly confirming Mr. Trumbull's views. Another root *gisch* or *hjal* (where the *ch* is the German guttural), which embraces the general concept of "successful action,"—an idea as purely abstract as can well be imagined,—flows, according to this author, into an amazing multitude of derivative terms, including *gischigon*, to begin life, to be born, *gischlan*, to form, to make with the hands, *gischlomen*, to create with the mind, to fancy, *gischlonamen*, to increase, to produce fruit, *giten*, to grow better in health, *hikoy*, long lived, old, *gischileu*, "it is proved true," *gischuch*, the sun, *gischapen*, daybreak, *gichten*, clear, bright, shining—and so on, almost without end.

Another careful and philosophical investigator, Professor Horsford, in seeking the origin of the Indian name of Boston, "Shawmut," has had occasion to determine the primary sense of its root, the monosyllable *sha*. He finds it to be "parallel-sided," and that this abstract term must have existed in the language earlier than the concrete nouns which have been formed from it, such as *wishash*, the trunk of a tree, *wishashuk*, the trunk of the human body, *wishashuk*, the throat, *shamut*, ear, and the like. *Upe* is a noun-making particle, and *ut* is a locative suffix, signifying "at" or "near." Thus *SHAMUT* was the parallel-sided strip of land, the well-known "Neck," which connects the peninsula of Boston with the mainland; and *SHAMUT*, "At (or near) the Neck," became the name of the peninsula itself.

But—admitting that primitive men, barbarians as they were, had the mental capacity which enabled them to invent these general or abstract roots—it will naturally be asked how we can suppose that very young children, whom our theory regards as the first framers of every language, can have possessed this remarkable faculty. Fortunately, we are able to answer this question, not by argument, but by a direct instance; and in such a case, one instance is as decisive as a thousand. The little nephew of Professor von der Gabelentz, a mere baby, just beginning to speak, had invented a root as abstract as the Algonkin *ata* or *pisak*, and with it a formative system seemingly more subtle and metaphysical than the Algonkin, inasmuch as the changes of meaning were indicated, after the Semitic fashion, not by affixed particles, but by internal vowel changes. *Mum* was a flat, circular object of the largest size, the table; *mem* was a smaller disk,—a plate, a watch, or the moon; and when the child was shown at night the “floor of heaven,” as Shakspeare’s fanciful lover styles it, “thick inlaid with patines of bright gold,” he exclaimed, with an instant application of his most diminutive inflection, “*mim, mim, mim.*” Here is an indubitable root, springing from the language-making instinct of an infant, which equals, and in some respects surpasses, those primary elements of speech with which the able investigators of the Aryan, Semitic, and American languages—the Rosfords and Max Müllers, the Ewalds and Renans, the Trumbulls and Brintons—have made us familiar. Yet there is really nothing in this which need astonish us. If the language-making faculty is, like the faculty of sight, a natural endowment and instinct of the human being, we might reasonably expect that a child who can, without effort or consciousness, see a table, a plate, or a star, as clearly as a sage can see them, should be able, without effort or consciousness, to name these objects as aptly as a sage could name them.

We are thus brought back, by the clearest facts and inductions, to the thesis with which our study of the subject began. We find by evidence drawn from the most varied and the most authentic sources—from the utterances of children and the idioms of the most uncultivated tribes—that language owes its origin to a cause which is as active at the present day as it was when speaking man made his first appearance on the earth. To this cause—the language-making instinct of young children—all the great variety of primitive languages, or linguistic

stocks, may be confidently ascribed. The explanation thus afforded removes the weightiest stumbling-block which has impeded the progress of philological science, and, at the same time, lays a solid foundation for ethnology, which that science has never before possessed. If this explanation, which has already been accepted as probable by authorities of the first rank, like Huxley, Parkman, Romanes and Sully, and for which other scholars of similar eminence, like Mr Gladstone and Professor Sayce, have only asked further evidence, shall be finally received as the true scientific solution of a great linguistic problem, it will largely modify, not only the sciences which have been named, but also the prevalent opinions on many points of mental, social, and political philosophy of the highest interest. It may therefore fairly claim the serious and candid consideration of all scholars who are interested in these important studies.

NOTE.—Since the foregoing paper was written, my attention has been drawn to the important use which M. Taine, in his profoundly philosophical treatise, "De l'Intelligence," makes of the language of children in explaining the origin of general terms. The portions of the work relating to this subject will be found in his First Book, chapter 1, "on Signs," and in his Fourth Book, chapter 1, on "General Characters and General Ideas." In the former he observes: "The formation of these general names may be narrowly watched with little children; we take them in the act." He gives several examples of childish expressions assuming a general sense through the natural tendency to association of ideas, which at that age is specially powerful. "For it," he proceeds, "we have the faculty of language." Some of his instances curiously recall those related by Professor Von der Gabelents, though none of the children displayed the peculiar inflecting turn of the Professor's nephew. "A little boy a year old," writes M. Taine, "had travelled a good deal by railway. The engine with its hissing sound and smoke, and the great noise of the train, struck his attention, and the first word he learned to pronounce was *sefer* (*chemin de fer*). Henceforward a steamboat, a coffee-pot with spirit lamp—everything that hissed, or smoked, or made a noise, was a *sefer*." This is interesting. With the German child it would have been still more so. The steamboat would have quickly become (in French orthography) *sefer*; a tea-kettle would have been *sefer*; and the coffee-pot with spirit-lamp *sefer*. In his Fourth Book the author returns to the subject, and elucidates it by further explanations and examples. "The infant invents and discovers incessantly, and of its own accord; there is no period of life in which his intelligence is so creative. The names suggested to him by his parents and the persons about him are but starting points for his innumerable efforts." "There is not

even need on all occasions for the words to be transmitted to him with deliberate intention, and by a human mouth; sometimes the child copies them in the involuntary sounds he utters, or in the accidental sounds he catches." And he cites a remarkable example from Francis Lieber ("Smithsonian Contributions to Knowledge," Vol. 2, p. 18) :—

"A member of my own family," says Mr. Lieber, "showed, in early infancy, a peculiar tendency to form new words, partly from sounds which the child caught, as to *wol* for to *stop*, from the interjection *wol* used by waggoners when they wish to stop their horses; partly from symphonemal omissions of sounds. Thus, when the boy was a little above a year old, he had made and established in the nursery the word *sim* for everything fit to eat. I had watched the growth of this word. First, he expressed his satisfaction at seeing his meal, when hungry, by the natural humming sound, which we might express thus, *Am*. Gradually, as his organs of speech became more skilful, and repetition made the sound more familiar and clearer, it changed into the more articulate *um* and *im*. Finally, an *n* was placed before it, *sim* being much easier to pronounce than *im*, when the mouth has been closed. But soon the growing mind began to generalise, and *sim* came to signify everything edible; so that the boy would add the words *good* or *bad*, which he had learned in the meantime. He now would say *good sim*, *bad sim*, his nurse adopting the word with him. On one occasion he said *he sim*, for *bad*, *repulses to eat*. There is no doubt but that a verb to *sim*, for to eat, would have developed itself, had not the ripening mind adopted the vernacular language, which was offered to it ready made."

M. Taine, though he dwells much and forcibly on the physiological view, including especially the functions of the brain, does not indicate the peculiar light which that study casts on the subject in question. This has been lately done by his countryman, the distinguished anthropologist, Dr. Topinard, in his notable lecture on "The last stages of the genealogy of man," published in his *Revue d'Anthropologie* for May, 1896. After referring to the fact—suggested by an argument of Professor Vogt—that the young monkey is more intelligent than the adult, Dr. Topinard remarks :—"But this greater intelligence of the young is the rule with all animals, including man, if we consider the facts. At this stage the brain is larger, relatively to the body; it is in a manner virgin, more impressionable; it grows extremely fast, and seeks only to absorb, to work, to turn to use the blood which it receives. What is more marvellous than the way in which our children learn to speak, to read, to write! Should we be capable, we adults, of the amount of rapid memory demanded by the mass of words and ideas which we impress upon them?"

It is satisfactory to be able to adduce, in confirmation of the ideas set forth in the preceding paper, these striking facts and arguments, from two of the highest authorities in Europe on questions of mental philology and physiology. For the reference to the passage in M. Taine's book I am indebted to the courtesy of Professor Max Müller, who is naturally interested in the results of an

inquiry tending so remarkably to sustain the opinions expressed by him in Deussen's work, more than thirty years ago. These opinions, then far advanced and much contested, have now been overtaken and confirmed by the conclusions of inductive science.









